PIERCE (N.H.)

SYPHILIS OF THE NOSE;

WITH REPORTS OF CASES.

BY

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REPRINTED FROM THE

New York Medical Journal

for November 30, 1895.

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ETC.

Primary syphilis of the nose occurs with great rarity. Dupont found chancre of the nose only once in seventeen hundred and seventy-three cases. It has not been my fortune to observe a single instance in three thousand cases of nasal disease. Maure, in 1888, published a case, and at the same time drew attention to the infrequency of primary infection at this point. Spencer Watson had, however, before Maure's publication, reported a case, the point of infection being the sæptum. O. Seifert has lately collected twenty seven cases of chancre on or in the nose. In the largest number of cases the alæ nasi were the points of infection; in a lesser number the chancre was within the nose, and here least frequently on the sæptum. The finger was, in the majority of cases, the carrier of the infection. Higguet saw two cases where a communistic snuffbox was the point of distribution.

Kissing has been the means of infection in a case reported by Heissler. Picking the nose, and thus excoriating its coverings with the nail, after having washed utensils used by the syphilitic, has several times been the modus of primary infection.

The clinical appearance of a primary sclerosis attacking the interior of the nose usually varies according to the age of the patient. In young children the sore frequently appears and runs its course as a simple papule without induration (Massei). In the adult, too, it may in the beginning appear as a benign ulceration, but in this class it soon becomes indurated, and in both classes interference with respiration becomes a prominent symptom. In Rasori's case there was intense frontal headache. In Watson's case there was elevation of temperature and great swelling of the interior of the nose. Maure's case showed an unusual proneness to bleed. Otherwise chancre of the nose, as well as the subsequent course of the disease, does not differ from syphilis attacking other regions of the body. The indolent swelling of the submaxillary and sublingual and pre-auricular glands, when found, renders valuable aid in diagnosis.

Secondary syphilis manifests itself in the nose as (*a*) erythema, (*b*) condylomata, (*c*) secondary ulceration.

(*a*) Erythema consists of hyperæmia of the mucous membrane with swelling of the submucous connective tissue. It manifests itself in the earliest stage as a catarrh (coryza syphilitica simplex). Attacking adults, it is often overlooked. In infancy it is of the greatest importance.

In by far the greatest number of cases the objective and subjective signs differ only slightly from those observed in simple acute catarrh. The hyperæmia of one is difficult to distinguish from that of the other. But there is this difference in regard to syphilitic coryza: the onset

is less violent, is more gradual, and the secretion, especially in the first stage, is not so profuse, but when established lasts longer than in the simple acute catarrh. Disseminate patches of well-defined erythema may be seen, especially on the sæptum, and on these may develop the plaques, which are the first pathognomonic signs of syphilis. While, as regards the nose, the diagnostic value of syphilitic erythema is not conclusive, the syphilitic erythema of the pharynx, with its depth of color, its sharp definition, and the strikingly healthy appearance of the surrounding mucosa, is sufficiently peculiar to warrant us in regarding it as characteristic.

In early infancy the nasal manifestations are among the surest secondary signs of hereditary syphilis—*i. e.*, at the time of or shortly after birth. Later they become less characteristic. Coryza syphilitica in the nursing infant becomes a menace to its life—first, because it occurs in an infant that is already badly nourished and the stoppage of the nose prevents its feeding; and, secondly, because all those factors which make a simple coryza in a nursing infant a dangerous disease are greatly augmented in the syphilitic variety. Every slight swelling of the structures in the nose will soon put an end to nasal respiration in an infant. This is due to the anatomical peculiarities of its skull. The face is much less developed than the brain. The ethmoidal cells do not yet exist. The sphenoidal cells and maxillary and frontal sinuses are only rudimentary; the hard and soft palates are more horizontal than in the adult; the meati are very narrow; the post-nasal space is small, partly because of the membrana prævertebralis and partly because of the vertical direction the pharynx takes. Then, too, the secretion of an infant's nose, from the same causes (respiratory stasis), becomes incrusted early. Hassing reported a case of this kind in which dyspnœa was so

urgent that tracheotomy had to be performed. Schmiegelow, speaking of this case, attributed the dyspnœa to a spasm of the glottis produced by reflex irritation of the coryza syphilitica. An interesting case similar to this occurred in my own practice, except that the patient was an adult and did not come to tracheotomy.

(*b*) *Condylomata* appear in the nose much less frequently than in the mouth, the isthmus faucium, lips, cheeks, tongue, or tonsils. Indeed, according to many observers, it is only in exceptional cases that they are met with in the nose. Michaelson, whose classical work on the subject is well known, has seen them several times in the vestibulum nasi, but nowhere else in the nose. Seifert gives the same experience. I have personally seen six cases of superficial erosions in the vestibule which were doubtless condylomatous in origin, and in one case circumscribed plaques along the inferior turbinated body. Davasse found them within the nose only eight times in one hundred and eighty-six cases; Bassereau twice in the vestibule in one hundred and ten cases. They occur by far most frequently in this locality. The condyloma as seen on the pituitaria varies somewhat from those seen on other mucous surfaces. Here they are only slightly elevated, are less prominently marked, and resemble circumscribed thickenings of epithelium. I believe that we receive this peculiar impression more from the oblique direction in which our reflected light strikes the plaques within the nose than from any real difference in the plaques themselves. They have a strong tendency to ulcerate and secrete actively. When they are acted upon by chemical irritants (chromic acid, bronze, etc.) we may have extensive destruction of bony parts. Such cases are a mixed form of coryza syphilitica and coryza professionalis (Toplitz, Polyak). But usually when a condyloma ulcerates the ulcer is superficial, presenting a

loss of only the layers of epithelium, of which the bases may be covered by exuberant granulations. In only rare cases do these ulcerations penetrate to greater depths. They are usually surrounded by a zone of deeply injected tissue

Late Syphilis.—Syphilis in its late or granulomatous form, when invading the nose, assumes an extraordinary importance. When we see those cases of frightful and hopeless deformity, or read of such as have been reported by von Babart and others, the results of neglect or improper treatment, and realize that we possess the power of arresting the demoniacal ravages of this disease, we must appreciate the importance of early positive diagnosis.

The time of onset of late syphilis of the nose is, according to Michaelson's statistics, from one to three years after infection. In five of my cases in which the data upon this point was ascertained the time elapsing varied from one, four, thirteen, seventeen, and eighteen years after infection.

It may begin with the abrupt symptoms of sudden onset, or its commencement and course may be marked by the utmost subtlety. The following cases from my private practice illustrate both of these modes nicely:

E., recommended by Dr. S., October 5, 1893, aged thirty-five years, married, no children. Family history very good. Syphilis contracted thirteen years ago. Under treatment three or four months. Has taken iodide of potassium at intervals since. Attention directed to nose last spring. Severe cold, lasting two months, characterized by stoppage of nose, sneezing, no pain, some discharge, frontal headache. Patient believes he had fever for three or four months. Has been under treatment by advertising specialists for six months, treatment consisting of simple spraying of the nose at office of the specialist three times a week.

Examination.—Right side: Ulcer with everted edges, yel-

lowish-white base, running from the vestibule along the sæptum for the distance of two centimetres. Turbinated bodies; thickening of the epithelial layers, which gives a grayish-pink color to the mucosa.

Left side: Ulcer extending over the greater part of mucous membrane covering triangular cartilage. Slough from anterior head of inferior turbinated body, 1·3 by 0·3 centimetres. This was partly detached, and I snared off the balance. The middle turbinated body was greatly disorganized, and dead bone could be detected by passing the probe through the various foci of granulation and necrotic tissue. During the course of treatment these dead spiculæ of bone were detached. At no time did they measure over a couple of millimetres in breadth or length. The sæptum healed under treatment, with only a very slight perforation at a point corresponding to the junction of the triangular cartilage, perpendicular plate, and vomer, and it seems to me that this is the point where perforation from the syphilitic process most frequently occurs.

Dr. X., referred by Dr. W., January 3, 1893, aged forty-two, single, physician. Family history good. Urine negative. Scarlet fever and measles. *Anamnesis:* Last November had severe pain in region of kidney; lasted four hours each day and returned every day at regular periods. This disappeared under medium doses of quinine in about a week. A month after was seized with severe pains in the supraclavicular regions on right side at two o'clock in the afternoon, which lasted until 4 P. M. This was repeated every day from Monday till Friday, accompanied by chills and fever. After Friday's attack he took sixty grains of quinine. This "dulled" the pain on the following day, but after sixty additional grains the pain disappeared altogether.

Comes to me complaining of offensive smell from the nose —"ozæna," as he said. Patient noticed bad smell in nose last February, accompanied by discharge. Nose was very much stopped up. No pain that he remembers. Once in a while a cheesy lump has come away since a month or six weeks ago. The stench is very offensive. Last month the patient caught cold by chilling the cutaneous surfaces, and was attacked

with acute suppurative inflammation of the middle ear, with profuse discharge followed by mastoiditis. No special symptoms through all this referable to the nose. Patient has no distinct recollection of syphilitic infection. About seventeen years ago had a sore on the lip which lasted several weeks. That occurred before he entered upon his medical studies, so he is unable to say what the treatment was, and his memory concerning the whole affair is rather dim.

Examination.—Nose, left side: Mucous membrane generally red and dry; nothing positive. Right side, floor: Mucous membrane thickened. Turbinated bodies normal in size; collection of thickened mucus in the regions of the orifices of the anterior ethmoidal cells. On examination of sæptum, I could see, at a point situated three centimetres from the lip and a couple of millimetres from the floor, a small, grayish, dry mass, which I at first took to be a scab. Upon using the probe this crumbled; by pushing the probe farther on it passed to the other nostril; manipulation gave crepitation of dead bone. I first scraped away the disorganized matter with a sharp spoon. Some of this resembled cottage cheese, was of a dark slate-color, and very offensive. Besides this, I took away the base of the vomer, part of the groove in which it rests, and a portion of the upper tablet of the palatal plate of the superior maxilla, measuring in all 2·8 by 1·5 centimetres. Part of this was taken away per post-nares. Profuse bleeding followed. Odor from breath completely gone next day. On fifth day a piece of bone measuring about 0·9 centimetre taken away. Here the dead mass projected from seemingly healthy membrane, as far as could be determined from anterior rhinoscopy.

Case III.—Dr. B., referred by Dr. S., January 3, 1894, physician, aged twenty-eight years, single. Syphilitic infection four years ago. Mother died of phthisis. Has had attacks of coryza for years. About six months ago the nose became more or less continually stopped up. The condition grew worse two months ago. There has been little or no odor. The discharge is purulent and profuse. Had no idea that he was suffering from anything but simple catarrh.

Examination.—Left side: Sæptum and anterior and middle turbinated bodies meet, so that view is excluded. Mucous membrane is grayish, thickened, and covered with a purulent coating.

Right side: Ulceration running along the floor of the nose. Ulcer has everted edges; base, grayish brown. Perforation in sæptum about the size of a dime, embracing triangular cartilage and a small strip of vomer.

Case IV.—H., recommended by Dr. F., November 10, 1893, aged thirty years, single, American. Family history good. Mother died of diabetes. No infectious diseases of childhood. First came to me in June with pain in the nose; stoppage. Discharge not marked; severe frontal headache. On examination, I found that the sæptum on the left side projected into the cavity of the nose, touching the anterior head of middle turbinated body. The mucous membrane covering it was smooth, but more red than that covering the rest of the nose. On the right side the mucous membrane was reddened, thickened, and there was a decided angular deflection of that plate of the sæptum, which caused nearly complete stoppage.

I was not altogether sure as to the nature of the appearance on the left side of the sæptum. There was no permanent depression in the structures of the outer wall corresponding to the projecting sæptum, a point that should always arouse suspicion, inasmuch as any long-standing deviation of the sæptum which is sufficient to produce pressure on the turbinated bodies will produce permanent depression at that point. I could elicit no history of syphilis, but I placed the patient as an experiment upon iodide of potassium. There was great amelioration of symptoms, the obstruction on the left side diminishing. He was treated for three weeks and then disappeared. The latter part of October the patient again presented himself to me in great distress. Odor of the nasal breath very disgusting; discharge of scabs now and then, and continuous sanious or purulent discharge. Patient much depressed mentally and talked of suicide.

Examination.—Perforation of the sæptum about the size

of a pea, around which was a rim of dead bone about three millimetres in diameter. Mucous membrane red.

Bone removed together with portion of upper table of floor. Complete healing, with perforation, in two months. The natural deviation of septum on right side was greatly benefited by the perforation.

The second case is remarkable. The patient was seen by one of our most eminent specialists on the same day upon which I examined him. There is no doubt as to the great ability and experience of this gentleman, yet he erred in diagnosis. I mention this fact simply to accentuate the caution that we should exercise continually the greatest care in our examinations, and that the use of the probe should become a routine practice. This case and Case I occurred in physicians, men of intelligence, and neither dreamed of the nature of the disease. In one the odor was most disgustingly prominent, in the other it was nearly or altogether absent. They both illustrate the subtlety with which this disease in its late nasal manifestations may begin and run its course. Case IV illustrates the suddenness with which it may begin. The smooth, diffuse infiltration on the left plate of the septum resembled very closely a deviation. The difference in color of the mucous membrane covering the prominence from that covering the rest of the septum was not marked. I have reason to believe not only that these infiltrations have been mistaken for deviations, but that they have been actually sawed away, after which the most extensive destruction of the septum has taken place.

Pathology.—Whatever the extent of the lesion in this stage, be it infiltration or ulceration, it is always due to one factor—the granuloma. The infiltration may be circumscribed or diffuse, the borders of which are more or less sharply defined from the surrounding tissue. The color of the mucous membrane covering the infiltration may be

more or less redder than that covering the unaffected parts of the nose. The tendency of such an infiltration is always to break down. In rare cases, however, this does not occur. In such cases the new cell elements are resorbed, and the mucous membrane, deformed by a true cirrhotic process, produces the appearances in those cases of atrophy so well described by John Nolen Mackenzie, or of shrinking of the wings of the nose without previous ulceration, as described by Lang. But the usual result is ulceration. This takes place from the surface inward, or *vice versa*. The ulcerative process is progressive, and invades the healthy tissue, the spreading ulceration being preceded always by the stage of infiltration. All who have had experience in this domain know the great variations in appearance which the late syphilitic ulcerations within the nose may assume. This is due both to the degree of virulence of the process itself and to the structure of the particular part of the nose in which it occurs. The ulcer is usually covered with a grayish-white, green, or dark-brown coating. When we remove this by wiping with the cotton pledget, or the application of peroxide of hydrogen, the base is found to be more or less granulated; the granulations are pale, glassy, and possessed of a low degree of vitality, which is due to an imperfect circulation. The borders of the ulcer are more or less red, more or less sharply cut, more or less elevated. The shape of the ulcer varies. The longitudinal form of the syphilitic ulcer of the septum has come to be regarded as characteristic, but in a number of my cases the resulting perforations have been quite round.

When the mucous membrane is in contact with cartilage or bone, as in the septum, the osseous or cartilaginous structures are most liable to become necrosed. The resulting sequestrum may be very small or so large as to render

it impossible of removal through the natural passages. The sæptum is the part most frequently attacked in nasal syphilis, but all perforations of the sæptum are not syphilitic. The labors of Weichselbaum, Hijek, Rosebach, and others have proved this. The ulcera syphilitica sæpti narium perforativa is to be diagnosticated from the simple so-called idiopathic perforation, from that caused by periostitis or perichondritis following trauma, tuberculosis, diphtheria, and chemicals—*i. e.*, chromic acid, bronze, etc. My experience has caused me to accept the opinion of Schröter and O. Seifert as correct—that a syphilitic perforation confined strictly to the cartilaginous sæptum is extremely rare, though its occurrence is possible; but when the specific process attacks the bone the cartilaginous sæptum adjoining is also involved. I believe, further, that if the cartilaginous sæptum is attacked primarily by the syphilitic disease the bony sæptum adjoining will be found to be necrosed, perhaps without exception, whereas the so-called idiopathic perforation never attacks the bone. In syphilis, too, the edges of the perforation are thickened and covered with coarse, pale granulations which bleed easily and are covered with a grayish-white coating, while the edges of the simple perforation, even at the very moment when perforation has occurred, are thin and rounded. They are occasionally covered with granulations, but they are very small, fine, and comparatively healthy, and in the majority of cases here and there are more or less advanced in the course of transformation into scar tissue. It is needless to say that specific treatment has no effect upon the simple perforation.

The collateral œdema accompanying late syphilitic disease of the nose varies in different cases and in the different stages. Usually in the beginning of the infiltration the œdema is great. In cases where a non-progressive ulcera-

tion has existed for some time it may be very slight or absent.

The osteoperiostitis syphilitica simplex or neoplastica can attack any of the bones which go to form the nasal skeleton (Massei). The infiltration may result in (1) exfoliation, (2) rarefying osteitis, or (3) plastic osteitis. In the exfoliative form the infiltration separates the periosteum (or perichondrium) from the bone (or cartilage); this in turn breaks down, and the pus so formed gains exit through the mucous membrane. It may be readily appreciated from this that we can not tell by the size of the external loss of substance in the mucosa to how large an extent the bone may be necrosed. In the rarefying osteitis the specific granulations cause the bone to be resorbed. In the plastic variety the granuloma tissue may be transformed into spindle cells, which in their turn are again converted into connective tissue. Thus, according to the observations of Scheck, Sanger, and Schuster, the entire sæptum may be absorbed without the discharge of a sequestrum. I have seen a case of this kind in which a large part of the bony sæptum was transformed into an apparently membranous partition; in running a cotton pledget along one side of the sæptum its course could be followed by a corresponding prominence on the other. A pinhead perforation resulted, but at no time was a sequestrum thrown off.

Fournier, in his lectures on naso-cranial syphilitic osteitis, has called attention to the manner in which nasal syphilis may be fatal. In such cases the ethmoid or the sphenoid are usually invaded. Secondarily the results may be (1) meningitis in its various forms, (2) thrombosis of the sinuses, especially the sinus cavernosus, which lies close to the sella turcica, (3) thrombosis of the vena ophthalmica, which empties into the sinus, (4) the escape of pus or extension of inflammation into neighboring

parts, as the orbit, etc., (5) implicating the optic and olfactory nerves or the third, fourth, and six pairs, (6) encephalitis circumscripta or diffusa with abscess. Duplay, Lallemand, Bourdet, Baratoux, and others have reported cases of this kind. Just here I would like to refer to a subject that has to do with the brain indirectly. It has been affirmed that the necrotic foci within the nose may by their reflex irritation cause characteristic psychic symptoms. Rougié reported a case of this kind in which the mental condition disappeared immediately upon the removal of the sequestrum (the inferior turbinated), but I am inclined to believe that the mental symptoms had more of a local syphilitic origin, and that they improved rather as the result of specific medication than as a consequence of the removal of the necrosed mass. It is reasonable to suppose that syphilitic nasal manifestations may give rise to reflex phenomena—may increase the gravity of a mental disorder—but in reviewing the cases I am led to believe that the syphilitic nasal disease has no specific characteristic mental accompaniments.

The deformities which may result are most various. I have seen a case where the entire outer nose was gone, and in which the antrum, nose, the left orbit, and mouth formed one cavity. The best known deformity is the so-called saddle nose, but it must be remembered that this is not always the result of syphilis. Michaelson has reported a case in which a traumatic phlegmon of the structures composing the bridge of the nose produced this deformity, and Seifert has observed a similar case in his practice. I have a like case to add occurring in a woman who had osteomyelitis of the nasal bones with formation of sequestrum following trauma. Seifert declares that saddle nose may result, when atrophic rhinitis occurs in the first years of life, by the contraction of the scar tissue in the

cartilaginous and membranous tissue upon which the bridge rests. I can agree to this, and would add that the deformity is more accentuated in those whose family nose is a bit tip-tilted.

Diagnosis.—The process which most resembles the syphilitic is the tubercular. In many cases the diagnosis is beset with great difficulties, especially if we have to depend upon local appearances alone. The shape of the syphilitic ulceration of the sæptum is, in the large majority of cases, longitudinal, while the tubercular is usually round or irregular in form; but we may have a circumscribed gumma in the nose which results in a round ulcer, and we have tubercular ulcers which are longitudinal. These are, however, rare, and occur with greatest frequency on the turbinated bodies. The syphilitic infiltration spreads beneath the mucous membrane or within or between the perichondrium and cartilage, causing necrosis of large areas of bone or cartilage in a very short time. This never occurs in tuberculosis (Seifert). The tubercular perforations of the sæptum take place gradually. The tubercular granulations slowly take the place of the osseous tissue. Then, too, the nasal tubercular manifestations are in the large number of cases preceded by the same disease on the face. The age of the patient is of some value, nasal tuberculosis occurring most frequently in the young. To conclude, we may examine pieces of excised tissue under the microscope to ascertain its histological structure or for the presence of *Bacillus tuberculosis*, or we may make injections of scrapings into the anterior chambers of the rabbit's eye. The local appearance of leprosy and anthrax may resemble those of syphilis, but the general appearance of the several diseases are so distinct that I shall not treat of them. It may be difficult without microscopic examination to differentiate the primary and some late syphilitic

manifestations of the nose, especially of the alæ, from malignant disease. Then we have the mixed infection of tuberculosis or leprosy with syphilis, and of carcinoma developing on a syphilitic base or scar. All this makes the diagnosis extremely difficult in many cases, and requires the greatest skill and experience on the part of the diagnostician. In all cases of doubt the balance of the mucous membrane covering the upper air-passages should be carefully inspected, and especially is this so regarding the post-nasal space, for it is this area that is most frequently the seat of late syphilitic manifestations. In all ulcerative processes within the nose a history of syphilis should be carefully sought for as well as syphilitic manifestations in other portions of the body which may exist at the same time. Failing this, we are not justified in regarding the process non-specific if there be bone necrosis and a sequestrum, but should at once institute specific treatment. In certain cases some difficulty may be experienced in differentiating between necrosing ethmoiditis and syphilis of the middle turbinated body when the latter disease is confined to that region, as was the case reported by Moldenhauer; but such instances must be rare. The slow course, the absence of slough, the typical "fissure," the relative smallness or absence of the sequestrum in necrosing ethmoiditis, are distinctive features which should prevent us from making a mistake. I have already called attention to the possibility of mistaking a syphilitic infiltration for a simple hypertrophy or even a simple deviation, as well as to the differences which exist between simple and specific coryza of the early stages. In case of trophic ulceration within the nose occurring in the course of bulbar tabes we have the general nervous symptoms to guide us in reaching a correct diagnosis.

Treatment: Prophylaxis.—All persons coming in con-

tact with syphilitics, such as attendants, servants, etc., should be instructed as to the possibility of their becoming infected, and preventive measures observed.* As has been pointed out in the first part of this paper, the social snuff-box may serve as a bearer of contagion.

Every one who has been infected with syphilis should subject his nose to inspection at the very first symptom of nasal trouble; and to prevent recurrence in those cases of healed nasal syphilis the nose should be inspected every two or three months for a year or more.

Actual treatment is constitutional and local, and one is as important as the other. There has been some discussion as to the exact value of local treatment in nasal syphilis. It is quite true that light manifestations in the nose may disappear under constitutional and without local treatment, but even in these cases the annoyances of the nasal symptoms are allayed and healing hastened by topical treatment, and in all cases the dangers are diminished by local applications. There are other cases that do *not* recover under constitutional treatment alone. The immediate disappearance of the intolerable stench upon the removal of a sequestrum is a nice example of the beneficial results of local measures.

In selecting the constitutional remedy I am guided largely by the rules which were formulated by the famous rhinologist Massei:

1. Mercury (*a*) in secondary manifestations, (*b*) when the patient has not had a thorough mercurial course, (*c*) when the iodides are not borne.

* Apropos, the common cigar-clipping machines which are to be found in every cigar store would seem to be a source of danger in this regard. I have many times seen men first moisten the cigar with the tongue and lips before using the cutter, and in two instances the men were in the infectious stage of syphilis to my certain knowledge.

2. Iodides (*a*) in the tertiary forms, (*b*) when the patient has had a thorough mercurial course, (*c*) when this is found to be without effect.

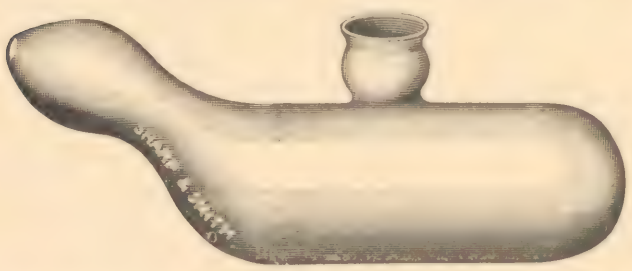
3. Mixed treatment (*a*) in the more grave forms, and when the mercury is not active enough.

4. Internal administration of mercury in the ordinary lighter forms; inunctions or hypodermic injections in those cases where the internal administration is badly borne, or when the disease threatens extensive destruction.

In those cases in which the iodides are indicated and the potassium salt is not borne we may substitute the iridium salt with safety. I have lately been using an ointment for inunctions in which the metallic mercury is replaced by calomel. It is made in the same way as the gray ointment, except that lanoline is used instead of lard. It makes a much more elegant preparation and is almost equally efficacious.

Local Treatment.—Cleanliness is one of the most important factors in all nasal therapeutics, but in nasal syphilis it becomes *primus inter pares*. Each time the patient is seen by the rhinologist, the nose, in its every part accessible, should be carefully cleaned by means of cotton pledgets carried on applicators. This should be done under illumination; and if this mode of cleansing becomes a habit, it will be found to frequently render valuable assistance in diagnosis and prognosis. The patient should douche the nose at home from two to three times daily. The drugs suitable for nasal irrigation in syphilis are numerous. In the simple specific coryza the solution should be merely bland and alkaline. It should be cleansing only, and mildly antiseptic. For this purpose I use equal parts of a powder consisting of bicarbonate, biborate, and chloride of sodium. As much of this as may be held on the point of a penknife blade is dissolved in as much warm

water as will fill the douche cup illustrated below. One half of the contents of the receptacle is poured into each nostril by the patient. At the same time the head is thrown back slowly, and the patient says a long-continued "Ah!" in order that the solution may not get into the pharynx. In the same way we may use a one-per-cent. solution of bicarbonate of sodium. If there is a good deal of discharge, which has a tendency to decompose or desiccate, we may use a one-per-cent. solution of salicylate of sodium, or a two-per-cent. solution of salicylic acid, or a one- to two-per-cent. solution of carbolic acid by means of a gravity douche, provided there is ample room for escape of the solution from the nose; otherwise it is better to depend upon the nasal bath, carried out by means of the cup shown in the cut. If there is ulceration or odor, or if for any reason the parts need a stimulating douche, we may use one to two drachms of a fifty-per-cent. solution of aceto-tartrate of aluminum to a pint of warm water. The corrosive-sublimate solutions are not fitted for use in the nose. They are too irritative when

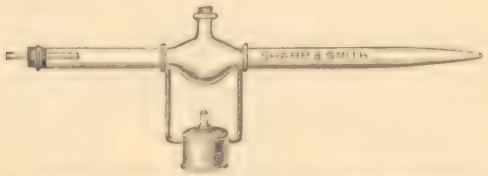


they are used strong enough to be of practical antiseptic value, and for cleansing purposes they are not only inefficient, but are deleterious on account of the property which they possess of forming a tenacious insoluble albuminate of mercury with the mucous and pathological secretions of the

nose. Aqua picis is a most excellent wash when it is necessary to frequently repeat the douche. It is not only an effective deodorizer, but its repeated application is not followed by gastric disturbance. The same can not be said of carbolic acid or even of salicylic acid.

The cleansing of the infantile nose is an important matter. Here desiccation occurs with greater rapidity than in the adult nose, and, as the lumen is small, occlusion sets in very soon. We must be careful to keep the air-way clear, or the nourishment of the suckling will be interfered with. It is well to cleanse the nose as often as the infant is fed. Just before each feeding a drop or two of warm liquid vaseline is dropped into each nostril. This has the effect of loosening the scabs, thus facilitating their removal. Their actual removal may be accomplished in several ways: by means of the air douche or Politzerization, or by means of the fluid douche or the cotton pledget. The air douche is very simple in its administration. An ordinary Politzer bag with a Lucae tip is inserted tightly in one nostril, and, without closing the opposite one, the air in the bag is forcibly expelled by compression. If the child cries it only aids in the operation by closing off the post-nasal space from the pharynx by elevating its palate. Thus the scabs and discharges are forced from one nostril into and out of the other. Occasionally they are forced into the pharynx and then swallowed. This furnishes one of the greatest objections to this mode of cleansing. Notwithstanding this, I regard the air douche as the most convenient, and as effective as any other means of cleansing the infantile nose. The fluid douche—*i. e.*, syringing—is difficult of accomplishment in the infant, and in the struggle that is bound to ensue the nose may be more or less injured, even with a blunt nose piece to the syringe. However, the fluid douche in the infant is not a whit more

effective than the dry douche. It may become imperative to free the nose from the obstructive matter, and the air douche may have proved futile. In such cases the dry cotton pledget is to be depended on. If necessary, the whole of the obstructing mass may be forced into the pharynx, whence it may be removed by the forceps, expelled by the infant, or the infant may swallow it—an occurrence not to be sought, but, having occurred, not to be too much deplored. At least, the results gained by thus ventilating the nose warrant the risk of such an accident. Once it is thoroughly cleansed, it is comparatively easy to preserve a good degree of freedom from accumulation in the nose by means of the fluid vaseline, the cotton pledget, and the air douche. As a means of local treatment in the infant I have used local mercurial fumigation by means of the nasal fumigator with satisfaction.



The nasal fumigator. Calomel is placed in the porcelain receptacle. The alcohol lamp below is lighted, and as soon as the fumes from the calomel are liberated they are blown into the nostril by means of the breath or a double balloon.

The infant is not refractory to such an application, and the results are gratifying. With infants whose nasal mucous membranes are the seat of secondary ulceration I have found the spray composed of the following ingredients beneficial and acceptable to the patient:

Iodoform	1;
Sulphuric ether	10;
Albolene	50–100.

This combination is serviceable also in cases of simple syphilitic coryza in the adult. Or when there is extensive secondary ulceration we may use an ethereal solution of iodoform (one to three); but in many cases the odor is objectionable.

For the treatment of plaques and secondary ulcerations on the mucous membranes of the upper respiratory tract nothing has given me such satisfaction as the nitrate of silver. I use the mitigated stick fused on the end of a probe. The condylomata or ulceration are carefully touched with this, and under such applications, combined with proper constitutional treatment, rarely last over four or five days. The application should be repeated when the whitish deposit produced by the nitrate has disappeared. This occurs usually in twenty-four to forty-eight hours. In cases where scabbing occurs in the vestibule three-per-cent. nitrate of mercury ointment applied two or three times daily is most satisfactory. In tertiary indurations which have not ulcerated the daily application of a ten-per-cent. iodo-glycerin solution over the affected area hastens the resorption of the granuloma.

In tertiary ulcerations we should first remove all fungoid excrescences. Indeed, it is good routine practice to always scrape tertiary ulceration in the nose before beginning local medication. I do not recommend the galvanocautery for such purposes, because it is too violent in its action and tends to destroy tissue that might reform. Ten-per-cent. iodo-glycerin, iodol, and ten-per-cent. nitrate-of-mercury solution, are all of value in the treatment of ulcerations of this kind. They should be used on the cotton pledget excepting, of course, iodol. Sequestra should be removed; but in the removal we should be careful to do as little injury to the nose as possible. It is seldom that the immediate removal of sequestra is imperative. Small

pieces of necrosed bone may be easily removed through the natural openings, either anteriorly or posteriorly. But in the case of large pieces, the removal of which would necessitate the laceration of the surrounding tissues, it is better to wait until their size has been reduced, or to crush them in smaller bits by means of forceps. For the purpose of reducing the size of such sequestra we may employ irrigation several times daily with hydrochloric acid:

Acid. hydrochlor. dil..... 4·4;
Aquæ destil..... 280;
Aquæ silviæ..... 140.

Or we may use the electro-cautery for the purpose of desiccation of the sequestra, as advised by Voltolini.

Yet, as in the case reported by Verneuil, when from sepsis the immediate removal of sequestra became imperative, we may be obliged to resort to external operation.

We should always be careful to prevent synechia when we find it possible. The deformities resulting from loss of bony support, as, for example, saddle nose, must be corrected by prosthetic appliances such as those recommended by Letrevant and Martin (La Prosthèse immédiate). The device perfected by Dr. F. E. Hopkins (*New York Medical Journal*, vol. lxi, No. 23) seems worthy of note, but I have no personal experience with it. As a means of hiding slight deformities of the bridge I have had several of my patients use spectacles. The *pince-nez* is not to be recommended for this purpose, on account of the pressure which it exerts upon the diseased parts, until the inflammatory process has long since passed away.

31 Washington Street.

The New York Medical Journal.

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PUBLISHED BY

D. APPLETON & CO., 72 Fifth Avenue, New York.